

COMMUNICATION BEHAVIOUR AND MAJOR CONSTRAINTS IN ADOPTION OF OKRA CULTIVATION TECHNOLOGY IN WESTERN UTTAR PRADESH

BHUVNESH KUMAR^{1*}, DAN SINGH² & ANKIT SINGH YADAV³

¹Assistant Professor, SSS Agriculture College Riico Sriganganagar Rajasthan, India

²Associate Professor, Sardar Vallabhbhai Patel University of Agriculture & Technology,
Modipuram, Meerut, Uttar Pradesh, India

³Assistant Professor, J. S. University Shikohabd, Ferozabad, Uttar Pradesh, India

ABSTRACT

The study was conducted in eight villages within Meerut district of Western Uttar Pradesh with 80 respondents selected from two blocks of one districts for the study. Neighbors' were most important communication source related to communication behaviour. Neighbors MPS (92.08) ranks first, Friends MPS (91.25) ranks second, and Progressive farmers MPS (89.58) ranks third. Regarding input constraints, unavailability of quality seed at the time of sowing is the major factor and ranks first with MPS 83.75. Regarding technical constraints, application of technology is highly technical and it ranks first with MPS 78.75; Regarding, socio-economic constraints, vegetable enterprise was very risky and ranks first with MPS 79.58. With regard to general constraints, insufficient training programme organized by the Govt. Dept. for okra cultivation ranked first with MPS 80.41 and with regard to marketing constraints, unavailability of procurement prices of the product absence of assumed marketing at remunerative price ranked first with MPS 69.16. Above were the major problems of okra growers.

KEYWORDS: Sampling, Respondents, Constraints, Okra, Percentage & Rank Order

Received: Dec 16, 2019; **Accepted:** Jan 06, 2020; **Published:** Mar 17, 2020; **Paper Id.:** IJASRAPR20205

INTRODUCTION

Horticulture crops play an importance role in India's economy by improving the income of the rural people. Cultivation of these crops is labour intensive and as such they generate lot of employment opportunities for the rural population. Women in rural areas are generally less responsive to improve technologies as they are not aware to these techniques. So to have the adequate contribution of rural women in development of the country, it is imperative that the rural women are trained in agriculture and its allied.

In India, cultivation of okra predominantly requires a long, warm and humid growing period. The yield of kharif crop is quite high as compared to zaid in the plains of Western Uttar Pradesh.

Okra (*Abelmoschus esculentus*(L.) Moench) native of India and commonly known as "Bhindi" is an annual malvaceous vegetable crop, especially grown in tropical and subtropical climate. Its tender green fruit are very nutritious and contains protein, fibre, carbohydrates, oxalic acid, phosphorus, calcium, copper, Iron and vitamins such as vitamin A, riboflavin, ascorbic acid, linoleic acid, one of the essential fatty acid, has also been reported to be present abundantly in okra seed oil. (Chin and Nushirwan, 1990)

Okra (*Abelmoschus esculentus* L.) is an annual vegetable crop grown in tropical and subtropical regions. Uttar Pradesh, Bihar and Orissa are major okra-growing states in India. Okra requires a long, warm and humid

growing period. It can be successfully grown in hot humid areas. It is sensitive to frost and extremely low temperatures. For normal growth and development, temperature between 24 °C and 28 °C is preferred. At 24 °C the first flower bud may appear in the third leaf axils while at 28 °C, it may appear in sixth leaf axils. This higher position is not necessarily accompanied with delay in time. Since at higher temperatures, the plants grow faster and the higher position has reached earlier for faster plant growth still higher temperature helps though it delays the fruiting. But at higher temperatures beyond 40-42 °C, flowers may desiccate and drop, causing yield losses. For seed germination, optimum soil moisture and a temperature between 25 °C and 35 °C is needed with fastest germination observed at 35 °C. Beyond this range, the germination will be delayed and weak seeds may not even germinate.

Adjustment of climatic factors helps in taking at least one (summer) crop in hills, 2 or even 3 (summer kharif and late kharif) crops in the east, west and north Indian plains almost year-round cultivation under moderate climate in south India. It is grown on sandy to clay soils but due to its well-developed tap root system, relatively light, well-drained, rich soils are ideal. As such, loose, friable, well manured loam soils are desirable. A pH of 6.0-6.8 is ideally suited. However, okra pusa sawani is tolerant to salts and thus leads to larger pH range. All soils need to be pulverized, moistened and enriched with organic matter before sowing.

Okra is one of the important spring (summer) and rainy season vegetable crops. Which is cultivated for green fruits? It is one of most favorite vegetable for growing in kitchen garden and used by people in different ways. Tender fruits are cooked as vegetable alone or mixed with potatoes which are preferential vegetable of masses and also eaten raw on an empty stomach every morning which nourishes the body and increases vitality of human. Mucilage is obtained from the dry roots and stems. Soaked in water overnight, it is used for cleaning sugarcane juice in jaggery manufacturing in India.

Fully ripe fruits and stem containing crude fiber are used in the paper industry. Its dry seed contain 13-22% edible oil and 20-24% protein. Roasted and grinded seeds find their use as coffee substitute. Okra flour is an effective food additive in wheat flour for baking bread with good technological and sensory characteristics. These green pods are quite nutritive as their 100g edible portions comprises of water 88.6gm energy 144.00 KJ (36 Kcal), protein 2.10g, carbohydrate 8.20g, fat 0.20g, fibre 1.70g, Ca 84.00 mg, P 90.00 mg, Fe 1.20mg, β -carotene 185.00µg, riboflavin 0.08mg, thiamin 0.04mg, niacin 0.06mg, ascorbic acid 47.00mg. (Gopalan *et al.* 2007)

Vegetables constitute an important item of our food with high nutritive value, supply vitamins, carbohydrates and minerals required for a balance diet which are deficient in other food materials. Their value is important in under developed and developing countries where malnutrition abounds. (Randhawa 1974 and Khan *et al.*, 2002)

The vegetables are important food and are highly beneficial to health. They contain valuable food ingredients. This can be successfully utilized to build up and repair the body. Vegetables are considered as protective supplementary food as they contain large amount of minerals, vitamins and essential amino acid which are required for normal metabolic functioning of human being. As regard to the economic value, they are cheaper sources of natural protective supplement us food and other essential chemical substances which the human body need to maintain good health. (Anonymous, 2008)

Horticulture contributes about 30% of GDP in agriculture, using only 17% land area. Horticulture exports are valued at Rs. 27,753 crores in 2013- 14. Area under horticulture has increased to 29% in 8 years, from 18.7 million ha in 2005- 06 to 24.2 million ha. in 2013- 14, as more farmers are venturing into horticulture for diversification in agriculture.

Horticulture production increased from 167 million tonnes in 2004- 05 to 283 million tonnes in 2014- 15. It occupies an area of 3.58 lakh ha with production of 35.25 lakh tonnes green fruit and productivity of 9.84 tonnes/ha. It shares 4.2% of total vegetable production. (Anonymous, 2005)

In India, area under vegetable crops is 9396 thousand ha, production 162897 thousand metric tons and productivity was of 17.3 metric tons /ha. Per capita availability of vegetables in India is 357 gm/person/day, which is helping in fighting malnutrition. India is the second largest producer of vegetables after china and is a leader in production of vegetables like peas and okra. Besides, India occupies the second position in production of brinjal, cabbage, cauliflower and onion and third in potato and tomato in the world. The world total area, production and productivity under okra is reported to be area 1117806 ha, production 8706312 metric tons and productivity of 7.8 metric tons/ha. In India's total area, production and productivity under okra producing is reported to be area 533 thousand ha, production 6346 thousand metric tons and productivity 11.9 MT/ha. The leading okra producing countries are India 72.9%, Nigeria 12.6%, Sudan 3.0%, Iraq 1.8%, Cote'd' Ivoire 1.5%, Pakistan 1.2%, Egypt 1.1%, Benin 0.8%, Cameroon 0.7%, China 0.7%, other 3.5% in the world. (Anonymous, 2014)

RESEARCH METHODOLOGY

The study was carried out in Meerut district. The western part of Uttar Pradesh is purposefully selected, as it is familiar area to the researcher. The district Meerut comprises of twelve blocks, out of which two blocks i.e Kharkhodha and Daurala were randomly selected. From each block, four villages were randomly selected. Thus, the total eight villages were selected for the investigation. From each village, ten respondents were randomly selected. Thus, the total sample size was 80 respondents for this investigation. The data was collected through personal interview method. For data analysis frequency, percentage and rank order statistics were used to draw the meaningful conclusion.

RESULTS AND DISCUSSIONS

Table 1: Distribution of Respondents according to their Contact with Communication Sources

Sl. No	Communication Sources	Extent of Contact						MPS	Rank
		Always		Some Time		Never			
		F	P	F	P	F	P		
1.	News paper	25	31.25	35	43.75	20	25.00	68.75	VIII
2.	Magazine	6	07.50	9	11.25	65	81.25	42.08	XIV
3.	Radio	7	08.75	11	13.75	62	77.50	43.75	XIII
4.	Television	55	68.75	15	18.75	10	12.50	85.41	V
5.	Friends	62	77.50	15	18.75	3	03.75	91.25	II
6.	Neighbours	63	78.75	15	18.75	2	02.50	92.08	I
7.	Progressive farmers	59	73.75	17	21.25	4	05.00	89.58	
8.	Agri. Input. Supplier	53	66.25	22	27.50	5	06.25	86.66	IV
9.	Kisan Sahayak	10	12.50	66	82.50	4	05.00	69.16	VII
10.	K.V.K /K.G.K. Scientists	1	01.25	9	11.25	70	87.50	37.91	XV
11.	Agril. Uni. Scientists	-	-	11	13.75	69	86.25	37.91	XV
12.	D.A.O	-	-	12	15.00	68	85.00	38.33	XVI
13.	D.H.O	-	-	9	11.25	71	88.75	37.08	XVII
14.	D.P.P.O.	-	-	2	02.50	78	97.50	34.16	XVIII
15.	D.T.O	-	-	2	02.50	78	97.50	34.16	XVIII
16.	S.D.E.O	-	-	2	02.50	78	97.50	34.16	XVIII
17.	Kisan gosthi	11	13.75	64	80.00	5	06.25	69.16	VII
18.	Demonstration	6	07.50	68	85.00	6	07.50	66.66	IX
19.	Field day	3	03.75	39	48.75	38	47.50	52.08	XII

20.	Farmers fair	9	11.25	49	61.25	22	27.50	61.25	X
21.	Exhibition	5	06.25	54	67.50	21	26.25	60.00	XI
22.	N.G.O s	18	22.50	58	72.50	4	05.00	72.50	VI
23.	Kisan call center	7	08.75	11	13.75	62	77.50	43.75	XIII

Communication Behavior

The data regarding contact with communication source is presented in Table 1. As regard to news paper, 43.75 percent of the respondents reach out to news paper sometimes, followed by 31.25 percent of the respondents who always reach out to newspapers and 25.0 percent of the respondents never reach out to news paper. As regard to magazine, 81.25 percent of the respondents' never reach out to magazine followed by 11.25 percent of the respondents reach out to magazine sometimes and 7.50 percent of the respondents always reach out to magazine source. With regard to radio, 77.50 percent of the respondents never reach out to radio, followed by 13.75 percent of the respondents contact radio sometimes and 8.75 percent of the respondents always reach out to radio. As regard to Television, 68.75 percent of the respondents always reach out to TV, followed by 18.75 percent of the respondents reach out to TV sometimes and 12.50 percent of the respondents never reach out to TV. As regard to Friends, 77.50 percent of the respondents always contacted Friends, followed by 18.75 percent of the respondents contact friends sometimes and 3.75 percent of the respondents never contact Friends. As regard to Neighbours, 78.75 percent of the respondents always contact Neighbours, followed by 18.75 percent of the respondents contact Neighbours sometimes and 2.50 percent of the respondents never contact Neighbours. As regard to Progressive farmers, 73.75 percent of the respondents always contacted Progressive farmers, followed by 21.25 percent of the respondents contact Progressive farmers sometimes and 5.00 percent of the respondents never contact Progressive farmers. As regard to Agricultural Supplier Input, 66.25 percent of the respondents always contact Agri. Input. Supplier, followed by 27.50 percent of the respondents contact Agri. Input Supplier and 6.25 percent of the respondents never contact Agri. Input. Supplier. As regard to Kisan Sahayak, 82.50 percent of the respondents some time reach out to Kisan Sahayak, followed by 12.50 percent of the respondents always reach out to Kisan Sahayak and 5.00 percent of the respondents never reach out to Kisan Sahayak. As regard to K.V.K / K.G.K Scientists, 87.50 percent of the respondents never contacted K.V.K / K.G.K Scientists, followed by 11.25 percent of the respondents contact K.V.K / K.G.K Scientists sometimes and 1.25 percent of the respondents always contact K.V.K / K.G.K Scientists. As regard to Agri. Uni. Scientists, 86.25 percent of the respondents never contacted Agri. Uni. Scientists, followed by 13.75 percent of the respondents contact Agri. Uni. Scientists sometimes and none of the respondents always contact with Agri. Uni. Scientists. As regard to D.A.O, 85 percent of the respondents never contacted D.A.O, followed by 15.00 percent of the respondents contact D.A.O sometimes and none of the respondents always contact with D.A.O. As regard to D.H.O, 88.75 percent of the respondents never contacted D.H.O, followed by 11.25 percent of the respondents contact D.H.O sometimes and none of the respondents always contact D.H.O. As regard to D.P.P.O, 97.50 percent of the respondents never contacted D.P.P.O, followed by 2.50 percent of the respondents sometimes contact D.H.O and none of the respondents always contact with D.P.P.O. As regard to D.T.O, 97.50 percent of the respondents never contacted D.T.O, followed by 2.50 percent of the respondents sometimes contact D.T.O and none of the respondents always contact D.T.O. As regard to S.D.E.O, 97.50 percent of the respondents never contacted S.D.E.O, followed by 2.50 percent of the respondents sometimes contact S.D.E.O and none of the respondents always contact with S.D.E.O. As regard to Kisan gosthi, 80.00 percent of the respondents some time contacted Kisan gosthi, followed by 13.75 percent of the respondents always contact Kisan gosthi and 6.25 percent of the respondents never contact Kisan gosthi. As regard to Demonstration, 85.00 percent of the respondents some time contacted Demonstration; followed by 7.50 percent of the respondents always contact

Demonstration and 7.50 percent of the respondents never contact Demonstration. As regard to Field day, 48.75 percent of the respondents some time contacted Field day, followed by 47.50 percent of the respondents never contact Field day and 3.75 percent of the respondents always contact Field day. As regard to Farmers fair (kisan mela), 61.25 percent of the respondents some time reach out to Farmers fair (kisan mela), followed by 27.50 percent of the respondents never reach out to Farmers fair and 11.25 percent of the respondents always reach out to Farmers fair (kisan mela). As regard to Exhibition, 67.50 percent of the respondents some time reach out to exhibition, followed by 26.25 percent of the respondents never reach out to exhibition and 6.25 percent of the respondents always reach out to Exhibition. As regard to N.G.Os, 72.50 percent of the respondents some time contacted N.G.Os; followed by 22.50 percent of the respondents always contact N.G.Os and 5.00 percent of the respondents never contact N.G.Os. As regard to Kisan call center, 77.50 percent of the respondents' never contacted Kisan call center, followed by 13.75 percent of the respondents sometimes contact Kisan call center and 8.75 percent of the respondents always contact Kisan call center.

The data presented in table 1, reveals that the most important communication sources related to communication behavior were Mean Percentage neighbours MPS with score of and ranked were (92.08) and it rank first, Friends MPS (91.25) ranks second, Progressive farmers MPS (89.58) ranks third, Agri. Input. Supplier MPS (86.66) ranks fourth, Television MPS (85.41) ranks fifth, N.G.Os MPS (72.50) ranks sixth, Kisan gosthi MPS (69.16) ranks seventh, News paper MPS (68.75) ranks eight, Demonstration MPS (66.66) ranks ninth, Farmers fair MPS (61.25) ranks tenth, Exhibition MPS (60) ranks eleventh, Field day MPS (52.08) ranks twelfth, Radio and Kisan call center MPS (43.75) ranks thirteenth, Magazine MPS (42.08) ranks fourteenth, K.V.K/K.G.K Scientists and Agri. Uni. Scientists MPS (37.91) ranks fifteenth, D.A.O MPS (38.33) ranks sixteenth place, D.H.O MPS (37.08) ranks seventeenth, D.P.P.O, D.T.O and S.D.E.O MPS (34.16) ranks eighteenth places in the cultivation of okra.

Table 2: Distribution of Okra Growers according to their Communication Sources

Variable	Particulars	Respondent	Percentage
Communication Source	Low (up to 10 score)	13	16.25
	Medium (10-20 score)	63	78.75
	High(Above 20 score)	4	05.0
	Total	80	100.00

The data presented in table 2 indicates that the majority of respondents, 78.75 percent okra growers were using medium level communication sources for obtaining information, followed by 16.25 percent okra growers were using low communication sources and the remaining 5.0 percent okra growers were using high communication sources. It is concluded that the medium group is more active and interested in using communication sources to obtain newly information about the okra cultivation. Regarding overall contact with News paper, Magazine, Radio, TV, Friends, Neighbours, Progressive farmer, Agril. Input supplier, Kissan sahayak, K.V.K/K.G.K Scientists, Agri. Uni. Scientists, Distt. Agriculture Officer, District Horticulture officer, District Plant Protection Officer, District Training Officer, Sub Divisional Extension Officer, kisan gosthi, Demonstration, Field day, Farmers fair, Exhibition, NGOs, and Kisan Call Center are reached out to obtain information about okra cultivation.

Table 3: Major Constraints Faced by Okra Growers in Okra Cultivation

Sl. No.	Constraints	S.A(3)	A.(2)	D.A.(1)	MPS	Rank
A.	Input Constraints as Perceived by Okra Growers					
i.	Unavailability of quality seed at the time of sowing.	46	29	5	83.75	I
ii.	Supply of inferior quality seeds by the input dealers.	39	35	6	80.41	II
iii.	High price of Hybrid seeds, fertilizers and chemicals.	32	43	5	77.91	III
iv.	Unavailability of fertilizers and micronutrients in proper time.	24	53	3	75.41	IV
v.	Reduction of soil fertility with use of higher dose of chemical fertilizers.	18	56	6	71.66	VI
vi.	Unavailability of quality plant protection chemicals.	21	49	10	71.25	VII
vii.	Lack of money to purchase requisites.	22	49	9	72.08	V
B.	Technical Constraints as Perceived by Okra Growers					
i.	Lack of knowledge regarding recommended package of practices.	27	45	8	74.58	V
ii.	Operational difficulty in application of the technological tools due to unavailability of labour.	30	48	2	78.33	II
iii.	Application of technology is highly technical.	32	45	3	78.75	I
iv.	Poor confidence in recommended newly technology.	32	41	7	77.08	III
v.	Lack of knowledge about balance fertilizers/IPNM concept.	31	42	7	76.66	IV
vi.	Lack of knowledge about plant growth regulators	24	46	10	72.50	VII
vii.	Lack of knowledge regarding plant protection measures.	19	53	8	71.25	IX
viii.	Lack of knowledge regarding planting distance.	18	54	8	70.82	X
ix.	Application of plant protection measures is risky due to lack of knowledge.	20	52	8	71.66	VIII
x.	Unavailability of technically sound labour.	24	47	9	72.91	VI
C.	Socio-Psychological Constraints as Perceived by Okra Growers					
i.	Lack of motivation and education.	33	40	7	77.50	II
ii.	Lack of coordination among the beneficiaries.	29	46	5	76.66	III
iii.	Field functionaries go through formalities to cover the targeted areas.	12	63	5	69.58	VII
iv.	Inadequate extension activities were conducted by the Govt. Department.	12	64	4	70.00	VI
v.	Lack of active local leaders.	18	54	8	70.82	IV
vi.	Local leaders are less interested in the programme.	21	47	12	70.41	V
vii.	Vegetable enterprise is very risky.	34	43	3	79.58	I
D.	General Constraints as Perceived by Okra Growers.					
i.	Insufficient training programmed is organized by the Govt. Department on okra cultivation.	35	43	2	80.41	I
ii.	Insufficient demonstrations are conducted at farmers' field.	32	45	3	78.75	II
iii.	Credit facilities are not available on vegetable cultivation.	30	40	10	75.00	III
iv.	Timely agricultural information are not available at proper time.	19	54	7	71.66	IV
v.	Poor transport facilities.	0	7	73	36.25	X
vi.	Short life of harvested vegetable.	10	63	7	67.91	VIII
vii.	New and timely information are not available at	13	61	6	69.58	VI

	proper time.					
viii.	Storage facilities are not available.	12	66	2	70.83	V
ix.	Unavailability of labour at peak season and high charges of labour.	13	60	7	69.16	VII
x.	High charges of irrigation.	1	6	73	36.66	IX
E.	Marketing Constraints as Perceived by Okra Growers.					
i.	Poor marketing channel.	1	5	74	36.25	VII
ii.	Unavailability of procurement prices of the product absence of assumed marketing at remunerative price.	9	68	3	69.16	I
iii.	There is no cooperative society to sale vegetable at Govt. rate.	8	68	4	68.33	II
iv.	Due to long distance of mother dairy the farmers are not able to sale.	13	52	15	65.83	III
v.	More interference of middleman in marketing system.	4	28	48	48.33	V
vi.	Availability of market in the vicinity.	6	33	41	50.83	IV
vii.	Marketing information is not available at time.	5	15	60	42.91	VI
viii.	Police man create problem at barrier/police check post.	2	2	76	35.00	VIII

The data presented in table 3 reveals that the most important constraints related to input constraints as perceived by okra growers were unavailability of quality seed at the time of sowing for the cultivation of okra. Its mean percentage score value was 83.75 and ranked in first, followed by supply of inferior quality seeds by the input dealers. Its mean percentage score value was 80.41 and ranked in second. Mean percentage score value of high price of hybrid seeds, fertilizers and chemicals. was 77.91 and ranked in third place. Mean percentage score value for Unavailability of fertilizers and micronutrients in proper time Its was 75.41 and ranked in fourth. Mean percentage score value for lack of money to purchase requisites Its was 72.08 and ranked in fifth place. Mean percentage score value for reduction of soil fertility with use of higher dose of chemical fertilizers Its was 71.66 and ranked in sixth place. Mean percentage score value of Unavailability of quality plant protection chemicals Its was 71.25 and ranked in seventh place.

Thus, it is concluded that there was unavailability of quality seed at the time of sowing, in the cultivation of okra. Input constraints as perceived by okra growers.

The second constraints related to technical constraints as perceived by okra growers were application of technology is highly technical in cultivation of okra. Its mean percentage score value was 78.75 and ranked in first, and followed by operational difficulty in application of the technological tools due to unavailability of labour. Its mean percentage score value was 78.33 and ranked second. Poor confidence in recommended newly technology. Its mean percentage score value was 77.08 and ranked in third place. Lack of knowledge about balance fertilizers/IPNM concept. Its mean percentage score value was 76.66 and ranked in fourth place. Lack of knowledge regarding recommended package of practices. Its mean percentage score value was 74.58 and ranked in fifth. Unavailability of technically sound labour. Its mean percentage score value was 72.91 and ranked in sixth. Lack of knowledge about plant growth regulators. Its mean percentage score value was 72.50 and ranked in seventh. Application of plant protection measures is risky due to lack of knowledge. Its mean percentage score value was 71.66 and ranked in eighth. Lack of knowledge regarding plant protection measures. Its mean percentage score value was 71.25 and ranked in ninth. Lack of knowledge regarding planting distance. Its mean percentage score value was 70.82 and ranked in tenth.

Thus, it is concluded that there was application of technology is highly technical in cultivation of okra growers. It

was the major technical constraints as perceived by okra growers.

The third constraints related to Socio-Psychological constraints as perceived by okra growers were vegetable enterprise is very risky in the cultivation of okra. Its mean percentage score value was 79.58 and ranked in first, followed by lack of motivation and education. Its mean percentage score value was 77.50 and ranked in second. Lack of coordination among the beneficiaries. Its mean percentage score value was 76.66 and ranked in third place. Lack of active local leaders. Its mean percentage score value was 70.82 and ranked in fourth. Local leaders are less interested in the programmed. Its mean percentage score value was 70.41 and ranked in fifth place. Inadequate extension activities were conducted by the Govt. Department. Its mean percentage score value was 70.00 and ranked in sixth. Field functionaries through formalities go to cover the targeted areas. Its mean percentage score value was 69.58 and ranked in seventh.

Thus, it is concluded that there was vegetable enterprise is very risky in the cultivation of okra. It was the major constraints in socio-psychological constraints as perceived by okra growers.

The fourth constraints related to general constraints as perceived by okra growers were Insufficient training programmed are organized by the Govt. Department on okra cultivation. Its mean percentage score value was 80.41 and ranked in first, followed by insufficient demonstrations are conducted at farmers' field. Its mean percentage score value was 78.75 and ranked in second. Credit facilities are not available on vegetable cultivation. Its mean percentage score value was 75.00 and ranked in third place. Timely agricultural information is not available at proper time. Its mean percentage score value was 71.66 and ranked in fourth place. Storage facilities are not available. Its mean percentage score value was 70.83 and ranked in fifth place. New and timely information are not available at proper time. Its mean percentage score value was 69.58 and ranked in sixth place. Unavailability of labour at peak season and high charges of labour. Its mean percentage score value was 69.16 and ranked in seventh place. Short life of harvested vegetable. Its mean score value was 0.375 and ranked in seventh. Storage facilities are not available. Its mean score percentage value was 67.91 and ranked in eight. High charges of irrigation. Its mean percentage score value was 36.66 and ranked in ninth. Poor transport facilities. Its mean percentage score value was 36.25 and ranked in tenth.

Thus, it is concluded that there was insufficient training programmed are organized by the Govt. Department on okra cultivation. It was the major constraints in general constraints as perceived by okra growers.

The fifth constraints related to marketing constraints as perceived by okra growers were Unavailability of procurement prices of the product absence of assumed marketing at remunerative price. Its mean percentage score value was 69.16 and ranked in first, followed by there is no cooperative society to sale vegetable at Govt. rate. Its mean percentage score value was 68.33 and ranked in second. Due to long distance of mother dairy the farmers are not able to sale. Its mean percentage score value was 65.83 and ranked in third. Availability of market in the vicinity. Its mean percentage score value was 50.83 and ranked in fourth place. More interference of middleman in marketing system. Its mean percentage score value was 48.33 and ranked in fifth place. Marketing information is not available at time. Its mean percentage score value were 42.91 and ranked in sixth place. Poor marketing channel. Its mean percentage score value was 36.25 and ranked in seventh. Police man create problem at barrier/police check post. Its mean percentage score value was 35.00 and ranked in eight.

Thus it is concluded that there was unavailability of procurement prices of the product absence of assumed marketing at remunerative price. It was the major constraints in marketing constraints as perceived by okra growers.

CONCLUSIONS

The study has clearly brought out that the access of different communication sources. The okra growers relied more on neighbors were most important communication source related to communication behaviour. It's MPS (92.08) and rank first, Friends MPS (91.25) and rank second, Progressive farmers MPS (89.58) and rank third.

However, it can be inferred that most of the okra growers had faced the constraints in adoption of okra production technology i.e. regarding input constraints, unavailability of quality seed at the time of sowing. It was rank first with MPS 83.75, regarding technical constraints; application of technology is highly technical. It was rank first with MPS 78.75, socio-economic constraints vegetable enterprise very risky, rank in first with MPS 79.58, regarding general constraints insufficient training programme are organized by the Government Department on okra cultivation ranked in first with MPS 80.41 and marketing constraints unavailability procurement prices of the product absence of assumed marketing at remunerative price rank in first with MPS 69.16, these were the major problems of okra growers.

REFERENCES

1. Ajay Kumar., Suhag, K. S. and Bhatia, J. K. (2011) Production and marketing constraints of vegetable growers in Haryana. *Haryana Journal of Agronomy*, 27(1/2):74-76.
2. Anonymous (2013) *Handbook of Agricultural Science- Published by Indian Council of Agricultural Research (ICAR), New Delhi.*
3. Anonymous (2014) *National Horticulture Database, National Horticulture Board, Gurdawn, Hariyana.*
4. Das, Amaresh, ST Shirgire, and VR Ghadage. "Boosting Crop Yield, Animal Husbandry Activities and Natural Resources Management through Integrated Research Approach for Sustaining Socio-Economical Status of Tribal Farmers."
5. Bhople, R. S. and Ambarkar, K. S. (1996) Production, storage and marketing constraints of vegetable growers. *PKV Research Journal*; 20(1):31-33.
6. Deka, C. K. Mukhopadhyay, S. B. Shantanu Kumar (2014) Constraints in potato cultivation in Assam: farmers experiences. *International Journal of Agricultural Sciences*; 10(2):488-492.
7. HiralalJana Basu, D. and Kole, R. K. (2013) Problems faced by vegetable growers in using pesticides in Nadia district of West Bengal. *Environment and Ecology*; 31(2C):1133-1138.
8. Chakraborty, Samarpan, and Debabrata Basu. "Homestead Gardening: An Emerging Venture Towards Achieving Food Security & Nutritional Security-A Study of Selected Areas of West Bengal." *International Journal of Applied and Natural Sciences (IJANS) ISSN (P) (2018): 2319-4014.*
9. Krishnamurthy, A. T., Kumar, V. B. S., Basavaraju, H. K. and Ahamed, B. Z. (2008) Adoption level and constraints in adoption of improved practices among vegetable growers of Chikmagalur district, Karnataka. *Environment and Ecology*; 26(2A):888-891.
10. Kubrevi, S. S. (2009) Constraints in adoption of improved variety of potato. *Environment and Ecology*; 27(2A):813-815.
11. Lal, B. Sinha, T. K. Anil Kumar Pandit, A. Pandey, N. K. (2011) Constraints perceived by the farmers in adoption of potato technology. *Potato Journal*; 38(1):73-77.
12. Muttaleb, M. A. Hossain, M. A. Rashid, M. A. (1998) Adoption level and its constraints of selected recommended potato technology. *Bangladesh Journal of Training and Development*; 11(1/2):101-108

13. SHARMA, VIJAY, A. Khan, and R. K. Shukla. "Growth and yield attribute of okra (*Abelmoschus esculentus* L.) under the application of bio and chemical fertilizers either alone or in combination." *International Journal of Agricultural Science and Research (IJASR)*, 1 (6), 189-198 (2016).
14. Patel, B. M., Patel, J. K. and Badhe, D. K. (2012) Constraints faced by potato growers in adoption of recommended potato production technology. *International Journal of Agricultural Sciences*; 8(2):502-504
15. Samantaray, S. K., Prusty, S. and Raj, R. K. (2009) Constraints in vegetable production-experiences of tribal vegetable growers. *Indian Research Journal of Extension Education*. 9(3):32-34.